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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant	:	Satoh *et al.*
App. No	:	10/759,953
Filed	:	January 16, 2004
For	:	SEMICONDUCTOR-PROCESSING DEVICE PROVIDED WITH A REMOTE PLASMA SOURCE FOR SELF-CLEANING
Examiner	:	Jeffrie Robert Lund
Art Unit	:	1792

REPLY BRIEF

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In response to the Examiner's Answer dated February 24, 2009, Appellants provide the following additional remarks:

Remarks/Arguments begin on page 2 of this paper.

REPLY BRIEF

Appellants respectfully disagree with the Examiner's previous rejections and the comments contained in the Examiner's Answer ("E.A.") of February 24, 2009. As a general point, Appellants note that the closest reference of record (U.S. Pat. No. 5,788,778) expressly teaches away from the claimed combination. The art asserted by the Examiner (Fong) does not counter this teaching away as Fong is silent as to the actual function of the *optional* gate valve, how it is arranged, and how it is to be used. This lack of any actual teaching in Fong is clear from the record as the Examiner has resorted to pointing to schematic block diagrams to assert that the reference "teaches" the recited fully-opening valve. Appellants note that, one of skill in the art, given the clear, express, and directly relevant teachings away of the '778 patent, specifically describing a need for restriction that is contrary to the claimed invention, would not have interpreted the silence and block diagrams in Fong as an affirmative teaching. Rather, they simply represent the absence of any teaching, which is overcome by the actual teaching away in the '778 patent (which again establishes the art's recognized need for flow restriction). Appellants note that the above interpretation of Fong has been established in the record by Appellants submission of the Declaration of Kiyoshi Satoh (see paragraphs 4-6). Appellants note that the Examiner has provided no arguments (much less any evidence or reason) to rebut the statements in the Declaration, and thus, the facts as put forth by the Declaration are presently unrebutted.

In summary, (1) the Appellants have provided specific teachings away from the claimed apparatus in the prior art; (2) the Examiner has not even attempted to counter those teachings away; (3) at most, accepting *arguendo* all of the Examiner's findings are correct, the Examiner has shown no more than individual elements in different references with no reason to combine other than their existences; under KSR, that is not sufficient to prove obviousness even in the absence of teachings away, and certainly not in view of the specific teachings away pointed to by Appellants.

In addition to the above, Appellants provide the following comments in regard to the Examiner's specific statements in the Examiner's Answer to help clarify some of the issues on appeal. For the sake of brevity, the comments are made by reference to the Examiner's Response

by page number and reason number. Those statements in the Examiner's Answer that have not been addressed below have been adequately clarified in the Appeal Brief.

Comments on Examiner's Answer to Appellants' Argument 1 (p.13-15, E.A.)

1) Appellants have not dismissed the teachings of Fong as the Examiner proposes. Rather, Fong does not teach all the elements of the valve recited in the claims. Appellants note that the Examiner appears to acknowledge this on page 9, Par. 1 of the E.A., where the Examiner states, "Fong does not disclose...the gate valve has an opening sized, when fully opened, substantially equal in width to the inner surface of the piping...." Thus, there is no relevant teaching in Fong to dismiss.

2) Appellants have not ignored "the entire body of technological literature" or the teachings of Fong as the Examiner proposes. As noted above, as established in Mr. Satoh's Declaration, and as apparently acknowledged by the Examiner, the presence of the schematic of the "gate-valve" in Fong does not teach the required elements of the valve recited in the claims. As noted previously, there are many different types of gate-valves that can open in different ways and have differently sized openings when compared to the rest of the piping. Thus, the term "gate-valve" and accompanying figure do not automatically denote the elements of the valve recited in the claims. As such, Fong, by itself, would not be sufficient for a rejection under 35 U.S.C. §102.

3) The Appellants respectfully disagree that the valve 280 shown in Figure 3 "clearly shows no extension into the flow path." Figure 3 in Fong is a schematic. Neither Figure 3, nor any of the other figures or discussion, discloses any details as to the actual valve body. Indeed, this absence of any "extension," is actually an absence of any description of the valve body. Without such a teaching, Fong, by itself, cannot teach the valve as recited in the claimed invention because the valve body must be capable of being withdrawn such that the recited pressure drop can be achieved (or so it has no projections, for Claim 9). Appellants note that Appellants' interpretation of Fong is supported by the Declaration of Mr. Satoh (paragraphs 4-6). The interpretation set forth in this Declaration has not been rebutted by the Examiner.

Comments on Examiner's Answer to Appellants' Argument 2 (p.15-16, E.A.)

1) Appellants respectfully disagree that Fong teaches the claimed valve and that no reason to combine is required as asserted by the Examiner. The valve in Fong is shown schematically, without an actual valve body, where the body is positioned, or how the body is withdrawn. This has been established by the Declaration of one of skill in the art, Kiyoshi Satoh. Thus, Fong does not teach all of the elements and must be combined with other references that teach the positioning and properties of the valve. Moreover, a reason must overcome specific teachings away in the art, or obviousness cannot be shown, and the Examiner has not even attempted to provide such a reason. Appellants note that all of the rejections are under 35 U.S.C. §103.

2) Appellants note that if a skilled artisan were selecting a gate valve as the Examiner proposes, then they would take into account the clear, explicit, and directly relevant teachings in the art that taught away from the recited valve (such as the teachings in the '778 patent). Moreover, given the apparent restriction elsewhere in Fong's device, one of skill in the art would have assumed that a gate valve that only partially opens would perform as well as a fully opening valve, because of the existing flow path restrictions. Thus, a skilled artisan would have had no reason to select a gate valve that fully opened. In addition, the Examiner's rejection appears to rely upon the premise that the results from the claimed invention are merely "predictable." However, as noted in the specification, the results of using the recited valve provides for superior results that were not predicted or appreciated by those in the art (*see, e.g.*, paragraph 0026). Thus, the claimed combination is more than just the predictable result made from simple substitutions. Moreover, as the prior art taught that restrictions were important in this technology (such as the '778 patent), thus teaching away from the recited invention, the "substitution" cannot be fairly characterized as resulting in "predictable results," as those of skill in the art were not contemplating such modifications.

Comments on Examiner's Answer to Appellants' Argument 3 (p.16-17, E.A.)

1) Appellants thank the Examiner for noting that the rejection is not based upon an inherency argument. However, as noted above, neither Figures 2, 3, and 6a of Fong, nor any

other section of Fong, actually teaches a schematic of a valve as claimed. Appellants note that this is clear because Fong does not teach any structural details within the valve (such as the valve body) or teach how the valve's components interact with the fluid passage 293. Thus, the Examiner's assertion that the valve in Fong is the same as what is claimed is cannot be based upon Fong itself. As the Examiner has asserted that there "is no inherency rejection," it is clear that those elements that are not taught by Fong (as established by Mr. Satoh's Declaration), must come from another reference and that there must be some reason for such a combination or modification.

Appellants note that the recited valve characteristics actually result from the physical structure of the valve itself, and thus, are not simply reciting what the "device does," or how the "apparatus is intended to be employed." Rather, the recited properties require a corresponding structure that does differentiate the claimed apparatus from the prior art. Thus, the element must be given appropriate consideration.

2) The Examiner has asserted that the "absence of the valve body [in figures 3 and 6a]... is because it is not seen or is fully retracted out of the flow path when the valve is opened." Appellants note that this interpretation is inconsistent with Figures 3 and 6a. Figure 6A actually depicts the "hidden" passageway via a set of dashed lines. However, there are no dashed lines depicting any part of the valve body, including the passageway along which the valve body moves, or any other part of the mechanics of the valve. Thus, it is very clear that Fong is simply silent in regard to the position of the full valve body in the open position. Appellants note that this is further confirmed by the Declaration by Mr. Satoh (paragraph 4). Thus, this limitation of the claimed fully opening valve is not depicted in Figures 3 and 6a of Fong.

Comments on Examiner's Answer to Appellants' Argument E (p. 18-20, E.A.)

1) Appellants agree that Noble is silent in regard to the properties of the flow path (as Appellants noted in the Appeal Brief). Appellants were simply noting that, to the extent that the Examiner wishes to assert that the *absence* of the teaching of a restriction in Fong should be equated with the *desirability of the absence of any restriction*, then by the same logic, the *absence* of a teaching of a valve in Noble would be equated with the *desirability of the absence*

of a valve. Appellants do not contend that Noble actually teaches this, but point out this aspect as a logical inconsistency with the Examiner's application of Fong, which if applied to all of the references equally, would illustrate the nonobviousness of the claimed invention under an alternative theory.

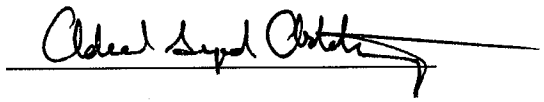
2) In regard to the Examiner's assertion that there "is no evidence that the mixing block of Fong is an obstruction," Appellants respectfully disagree. The exit of the mixing box is clearly obstructed by structure 295, which is positioned within this passageway. Even if one were to assume that the passages were otherwise close to equal in diameter, the mixing box would appear to restrict the flow from the entrance of the mixing box relative to the passageway that leaves the mixing block. Appellants note that the flow path is restricted even further at the location beneath the arrows indicated by the Examiner. Moreover, the skilled artisan will understand that back pressure is desirable for any "mixing" function

3) Appellants note that to the extent that Fong teaches a restriction in the mixing block arrangement, then the mixing block would need to be removed to obtain an arrangement that was "without obstruction," as recited in the relevant claims.

CONCLUSION

Fong does not teach the valve as recited in the claims because Fong does not address the valve and does not actually teach anything about the valve body or its position when fully withdrawn. In attempting to establish that Fong does teach the relevant valve, the Examiner has had to rely upon interpretations of the schematic block diagrams in Fong and the unsupported assertions that one of skill in the art would understand Fong to teach the relevant valve. However, Appellants have previously submitted the Declaration of Mr. Satoh, which establishes that one of skill in the art would not have interpreted the schematics in the manner proposed by the Examiner. Appellants note that this Declaration has not been rebutted by the Examiner. Finally, Appellants note that the closest art of record (the '778 patent) expressly teaches away from the valve as recited in the claims. In light of the clear teachings away Appellants submit that the claimed invention is not obvious even if the Examiner's factual findings were all accepted. The Examiner has steadfastly maintained that no reason is needed for the asserted

combination, even in the face of express teachings away, and has not even attempted to present a reason.



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